

***What Is Claimed Is:***

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence selected from the group consisting of:
  - (a) a nucleotide sequence encoding any one of the amino acid sequences of the polypeptides shown in Table 1; or
  - (b) a nucleotide sequence complementary to any one of the nucleotide sequences in (a).
  - (c) a nucleotide sequence at least 95 % identical to any one of the nucleotide sequences shown in Table 1; or,
  - (d) a nucleotide sequence at least 95% identical to a nucleotide sequence complementary to any one of the nucleotide sequences shown in Table 1.
2. An isolated nucleic acid molecule of claim 1 comprising a polynucleotide which hybridizes under stringent hybridization conditions to a polynucleotide having a nucleotide sequence identical to a nucleotide sequence in (a) or (b) of claim 1.
3. An isolated nucleic acid molecule of claim 1 comprising a polynucleotide which encodes an epitope-bearing portion of a polypeptide in (a) of claim 1.
4. The isolated nucleic acid molecule of claim 3, wherein said epitope-bearing portion of a polypeptide comprises an amino acid sequence listed in Table 4.
5. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 1 into a vector.
6. A recombinant vector produced by the method of claim 5.
7. A host cell comprising the vector of claim 6.
8. A method of producing a polypeptide comprising:

- (a) growing the host cell of claim 7 such that the protein is expressed by the cell; and
- (b) recovering the expressed polypeptide.

9. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- (a) a complete amino acid sequences of Table 1;
- (b) a complete amino acid sequence of Table 1 except the N-terminal residue;
- (c) a fragment of a polypeptide of Table 1 having biological activity; and
- (d) a fragment of a polypeptide of Table 1 which binds to an antibody specific for a *S. aureus* polypeptide.

10. An isolated polypeptide comprising an amino acid sequence at least 95% identical to an amino acid sequence of Table 1.

11. An isolated epitope-bearing polypeptide comprising an amino acid sequence of Table 4.

12. An isolated antibody specific for the polypeptide of claim 9.

13. A host cell which produces an antibody of claim 12.

14. A vaccine, comprising:

- (1) one or more *S. aureus* polypeptides selected from the group consisting of a polypeptide of claim 9; and
  - (2) a pharmaceutically acceptable diluent, carrier, or excipient;
- wherein said polypeptide is present, in an amount effective to elicit protective antibodies in an animal to a member of the *Staphylococcus* genus.

15. A method of preventing or attenuating an infection caused by a member of the *Staphylococcus* genus in an animal, comprising administering to said animal a polypeptide of claim 9, wherein said polypeptide is administered in an amount effective to prevent or attenuate said infection.

16. A method of detecting *Staphylococcus* nucleic acids in a biological sample comprising:
  - (a) contacting the sample with one or more nucleic acids of claim 1, under conditions such that hybridization occurs, and
  - (b) detecting hybridization of said nucleic acids to the one or more *Staphylococcus* nucleic acid sequences present in the biological sample.
17. A method of detecting *Staphylococcus* nucleic acids in a biological sample obtained from an animal, comprising:
  - (a) amplifying one or more *Staphylococcus* nucleic acid sequences in said sample using polymerase chain reaction, and
  - (b) detecting said amplified *Staphylococcus* nucleic acid.
18. A kit for detecting *Staphylococcus* antibodies in a biological sample obtained from an animal, comprising
  - (a) a polypeptide of claim 9 attached to a solid support; and
  - (b) detecting means.
19. A method of detecting *Staphylococcus* antibodies in a biological sample obtained from an animal, comprising
  - (a) contacting the sample with a polypeptide of claim 9; and
  - (b) detecting antibody-antigen complexes.
20. A method of detecting a polypeptide of claim 9 comprising:
  - (a) obtaining a biological sample suspected of containing said polypeptide; and
  - (b) determining the presence or absence of said polypeptide in said biological sample.
21. The method of claim 20, wherein said method comprises a step of contacting the sample with an antibody.